(Clean Version of New Claims 24 through 55)

24. A DFT result diagnosis system including:

an ATE data source for providing test data in the ATE domain;

an ATPG tool operative to generate ATPG pattern data and ATPG results data in the ATPG domain;

at least one translation module to automatically convert data between multiple domains; and

at least one function module to automatically summarize data from one or more devices or tests in one or more domains.

25. A DFT result diagnosis system according to claim 24 wherein:

the ATE data source comprises a semiconductor tester.

26. A DFT result diagnosis system according to claim 24 wherein:

the ATE data source comprises a data repository.

27. A DFT result diagnosis system according to claim 24 wherein the at least one translation module includes:

a pattern translator to convert ATPG pattern data into ATE pattern data;

a result translator to convert ATE output data into ATPG/diagnosis tool input data; and

a mapping generator for correlating the pattern data and the results data between the ATPG/scan and the ATE domains.

28. A DFT result diagnosis system according to claim 24 and further including:

a graphical user interface generator for receiving data identifying failed scan chains and scan cells from the ATE data source and ATPG/scan fail translator and generating graphical representations of the failed scan chains and cells; and

a display device coupled to receive the graphical representations from the graphical user interface, the display device operative to display the graphical representations of the failed scan chains.

29. A DFT result diagnosis system including:

a data source for providing test data in one or more domains;

a function module for accumulating the test data and automatically summarizing the data.

30. A DFT result diagnosis system according to claim 29 wherein:

the data source provides test data in one or more domains from the group comprising ATE failure data, ATPG/scan failure data, logical design failure data and physical design failure data.

31. A DFT result diagnosis system according to claim 29 wherein:

the function module accumulates test data from multiple tests.

32. A DFT result diagnosis system including:

a test and diagnosis engine including a semiconductor tester and a scan diagnosis tool;

a graphical user interface generator for receiving failure scan chain data identifying failed scan chains from the test and diagnosis engine and generating graphical representations of the failed scan chains; and

a display device coupled to receive the graphical representations from the graphical user interface, the display device operative to display the graphical representations of the failed scan chains.

33. A DFT result diagnosis system according to claim 32 and further including:

at least one translation module to automatically convert data between multiple domains; and

at least one function module to automatically summarize data for one or more devices or tests in one or more domains.

34. A DFT result diagnosis system according to claim 33 wherein the at least one translation module includes:

a pattern translator to convert ATPG pattern data into ATE pattern data;

a result translator to convert ATE output data into ATPG/diagnosis tool input data; and

a mapping generator for correlating the pattern data and the failure data between the ATPG/scan and the ATE domains.

35. A DFT result diagnosis system including:

means for generating pattern signals in an ATE domain to test a device-under-test and producing test output data in the ATE domain;

means for generating ATPG pattern data and ATPG results data in an ATPG domain;

means for automatically converting data between multiple domains; and

means for automatically accumulating data for one or more devices or tests in one or more domains.

A' cont'd

36. A DFT result diagnosis system according to claim 35 wherein the test output data includes failed scan chain data, the DFT result diagnosis system further including:

means for graphically displaying the failed scan chain data.

37. A computer-readable medium having stored thereon sequences of instructions which, when executed, cause one or more electronic systems to:

capture scan failure data associated with failed scan chains from a data source;

display a portion of the scan chains including the captured failure data; and

diagnose the scan failure data with a diagnosis tool.

38. A method comprising:

capturing scan failure data associated with failed scan chains from a data source;

displaying a portion of the scan chains including the captured failure data; and

diagnosing the scan failure data with a diagnosis tool to produce diagnosis results data.

39. A method according to claim 38 wherein the capturing step includes:

testing a device-under-test with test pattern data in a scan format, and the data source comprises the device-under-test.

40. A method according to claim 39 wherein the step of testing includes the step:

directly communicating with the diagnosis tool.

41. A method according to claim 39 wherein the step of testing includes the step:

directly communicating with the data source.

A' cont'd

42. A method according to claim 39 wherein the step of testing includes the step:

generating ATPG pattern data in the ATPG domain with the diagnosis tool; and

automatically translating the ATPG pattern data into ATE test pattern data.

43. A method according to claim 39 wherein the step of capturing includes the step:

accumulating multiple sets of scan failure data.

44. A method according to claim 39 wherein the step of displaying includes:

displaying textual/tabular scan fail data.

45. A method according to claim 39 wherein the step of displaying includes:

displaying graphical scan fail data.

46. A method according to claim 39 and further including the step:

displaying the diagnosis results data.

47. A method according to claim 46 wherein the step of displaying includes:

displaying textual/tabular diagnosis results data.

48. A method according to claim 43 wherein the step of diagnosing includes the step:

automatically invocating the diagnosis tool on selected scan failure data sets.

A' cont'd

49. A method according to claim 43 wherein the step of diagnosing includes the step:

generating ATPG pattern data in the ATPG domain with the diagnosis tool; and

automatically translating the ATE output test data into ATPG/scan failure data.

50. A method according to claim 43 wherein the step of diagnosing includes the step:

accumulating multiple sets of diagnosis results data.

51. A computer-readable medium having stored thereon sequences of instructions which, when executed, cause one or more electronic systems to:

access ATE domain data;

access ATPG domain data;

automatically translate the accessed data between multiple domains; and

automatically summarize the translated data for one or more devices or tests in one or more domains.

52. A method comprising:

accessing ATE domain data;

accessing ATPG domain data;

automatically translating the accessed data between multiple domains; and

automatically summarizing the translated data for one or more devices or tests in one or more domains.

A' cont'd

53. A method according to claim 52 wherein the automatically summarizing step includes one or more steps from the group including filtering, sorting, querying, or accumulating test data for one or more devices or tests in one or more domains.

54. A method comprising the steps:

accessing test data from one or more domains from the group comprising ATE failure data, ATPG/scan failure data, logical design failure data and physical design failure data; and

automatically summarizing test data from one or more devices or tests in one or more domains.